

Conoco Inc. Civil Judicial Settlement

Fact Sheet

Dec. 20, 2001

Overview: The settlement announced Dec. 20, 2001, commits four refineries owned by Conoco Inc. (“Conoco”) to an ambitious program to assure compliance with major provisions of the Clean Air Act. The Companies expect to spend more than \$110 million over eight years to reduce emissions by nearly 8,000 tons per year.

The consent decree provides for a limited pool of emission reductions that can be used to expedite production of clean fuels to meet “Tier II” and low sulfur diesel standards that take effect in 2004. These provisions, which will help eliminate clean fuel production bottlenecks that could shrink supply and raise prices, are subject to review by state and local permit authorities.

Refineries Compliance Strategy: This is the fifth settlement in a federal compliance strategy for achieving cooperative across-the-board compliance with U.S. refining companies. Last year the federal government reached similar and record settlements with BP and Koch Petroleum Group, Marathon Ashland Petroleum, Motiva, Equilon and Shell Deer Park. When combined with the Navajo settlement announced today, more than 30 percent of total U.S. refining capacity will be covered by consent decree.

EPA also is engaged in settlement negotiations with several other companies comprising an additional 30 percent of domestic refining capacity.

State Partnerships: The states of Louisiana, Oklahoma and Montana have joined in this settlement and will share in the civil penalty. Colorado has also joined in this settlement. All plaintiffs will benefit from additional environmental projects in communities where the refineries are located.

Companies/Affected Refineries: The four Conoco refineries are located in four states, together process about 532,000 barrels of oil a day and represent approximately three percent of total refining capacity. They are located in Lake Charles, La., Ponca City, Okla., Billings, Mont., and Commerce City, Colo.

Clean Air Act Violations: The consent decree resolves certain violations associated with:

1. New Source Review (NSR) standards requiring facilities to apply best available technology (BACT) or lowest achievable emission reductions (LAER) when “grandfathered” units are expanded in a way that increases emissions;
2. New source performance standards and other pollution control practices applicable to certain units, including the flaring of sulfur gases during process upsets;
3. Leak detection and repair (LDAR) requirements governing fugitive emissions from process components including valves, pumps, flanges; and
4. Benzene emissions from wastewater treatment plants. These are the most significant sources of air emissions at refineries nationwide.

Settlement Terms:

Civil Penalty: Conoco has agreed to a \$1.5 million penalty: \$1.05 million to the United States, \$250,000 to Louisiana, \$125,000 to Oklahoma and \$75,000 to Montana.

Environmental projects: The agreement includes \$5.1 million in community-based supplemental environmental projects. It is anticipated that each of the communities surrounding these refineries will benefit (e.g., \$2 million to the Denver area, ; some of which will fund projects requested by NWAPA.

Enhanced Pollution Controls (\$95-110 Million): The agreement requires major capital expenditures at all refineries to build and operate technologies to control NO_x and SO₂ emissions at fluidized catalytic cracking units (FCCUs), which break crude oil down into major categories of refined product, and at heaters and boilers, which fuel the refining process. Conoco also will invest in controls and operating practices to minimize the excess flaring of sulfurous gases, reduce fugitive emissions from process components, including leaking valves, pumps and flanges, and the release of benzene gases from wastewater treatment and conveyance systems.

ENHANCED POLLUTION CONTROLS

FCCU	<p>SO_x: Aggressive use of catalyst additives at all five units to achieve levels of performance comparable to BACT (25 ppm).</p> <p>NO_x: Install selective noncatalytic reduction (SCNR) at one unit. Aggressive use of catalysts at four other units in an effort to achieve similar levels of performance.</p>
Heaters/Boilers	<p>SO_x: Eliminate burning of liquid and solid fuels.</p> <p>NO_x: Install “ultra-low NO_x” boilers to reduce overall NO_x emissions from heaters and boilers greater than 40 MMBTu by more than 1,500 tons per year.</p>
Flare Gas Recovery	Meet “new source” standards at all sulfur recovery plants and hydrocarbon flares. Install flare gas recovery systems and take other actions to reduce emissions from process upsets. Reroute and eliminate sulfur pit emissions. Implement protocol to diagnose and prevent upsets that result in significant releases of SO ₂ and other gases.
Leak Detect/Repair	Implement an enhanced program for identifying and repairing leaking valves and pumps, a significant source of fugitive VOC emissions through more frequent monitoring, the use of lower definitions for what is a “leak,” and regular auditing of each facility’s LDAR program.
Benzene/Wastewater	Develop an enhanced program for ensuring compliance with benzene waste management practices through comprehensive auditing, regular monitoring, and improved emission controls (e.g., secondary carbon canisters and water scrubbers).

REFINERY	FCCU CONTROL SCHEDULE	
	NO_x	SO₂
PONCA CITY, Okla.- No. 5	SNCR (2006)	Catalysts (2003)
PONCA CITY, Okla - No. 4	Catalysts (2004)	Catalysts (2003)
LAKE CHARLES, La.	Catalysts (2004)	Catalysts (2003)
COMMERCE CITY, Colo.	Catalysts (2004)	Catalysts (2003)
BILLINGS, Mont.	Catalysts (2004)	Catalysts (2003)

GLOSSARY OF TERMS

BACT/LAER: BACT, or Best Available Control Technology, calls for emission controls that are the best generally available while considering costs, and is required on major new or modified sources in clean areas (i.e., attainment areas). LAER, or Lowest Achievable Emission Rate, calls for the best control technology ever applied in practice, without consideration of costs. LAER is required on major new or modified sources in non-attainment areas.

Benzene: Benzene is a colorless gas and is one of the many chemicals that make up gasoline. A known carcinogen, benzene can cause drowsiness, dizziness, headaches and vomiting. Death may result from high exposures. Leukemia is the form of cancer most commonly associated with benzene exposure. About 90 percent of airborne benzene results from gasoline. Benzene enters the air through tailpipe emissions and through evaporation, such as during refueling. Refineries are the single largest industrial source of benzene emissions.

Catalyst: A chemical compound that promotes the reaction among other compounds without undergoing chemical change or being expended in the process.

Cracking: The breakup of heavy petroleum molecules into shorter ones through the application of heat and pressure or catalysts.

Flaring: The process of disposing of waste gas streams by burning them in the open atmosphere.

Fluid Catalytic Cracking Unit (FCCU): A vessel used for cracking petroleum products by using a powdered catalyst in suspension in a moving stream of oil vapor.

Leak Detection And Repair (LDAR): A regulatory requirement to check valves and flanges throughout a refinery for leaks using portable monitoring equipment, and repairing any leaks above a certain rate within a set timeframe.

National Emission Standards for Hazardous Air Pollutants: Specific air pollution requirements designed to target sources of emissions deemed especially hazardous to public health.

New Source Performance Standards (NSPS): Requirements aimed at ensuring that newly built or significantly refurbished sources of air pollution apply modern control technology upon construction or reconstruction.

Nitrogen Oxides (NOx): Burning fossil fuels, such as coal and gasoline, releases NOx into the atmosphere. Nitrogen oxide emissions contribute to the formation of ground level ozone, acid rain, nitrogen deposits in lakes and coastal waters, crop damage, and reduced visibility. Ground level ozone can cause premature mortality, reduced lung function and aggravate existing respiratory problems such as asthma. Major sources of NOx include oil refineries, power plants and automobiles.

Prevention of Significant Deterioration/New Source Review(PSD/NSR): Provisions in the Clean Air Act that require that permits and pollution controls be applied to major sources of air pollution when they are first built or undergo modifications that can increase emissions.

Selective Catalytic Reduction (SCR): An add-on control device that reduces NO_x emissions by converting them to nitrogen and water through the intervention of ammonia and a non-reacting catalyst that remains in place for continued reuse. The NO_x reduction reactions occur in a narrow temperature range, generally 550-900° F. SCR is capable of NO_x emission reductions of 90 percent or greater.

Selective Non-catalytic Reduction (SNCR): An add-on control device that reduces NO_x emissions by converting them to nitrogen and water using ammonia or urea injection without a catalyst. In the absence of a catalyst, higher temperatures in the range 1600 to 2000° F are required for ammonia to selectively react with nitric oxide to form molecular nitrogen and water.

Sulfur Dioxide (SO₂): Colorless gas, odorless at low concentrations but pungent at very high concentrations. One of the major pollutants that cause acid rain. Harmful to humans and vegetation when concentrations are sufficiently high. Major sources of this pollutant are petroleum refineries, coal or oil burning power plants and diesel engines.

Tier II/Low Sulfur Diesel: EPA's recently promulgated Tier II rule for lowering motor vehicle emissions and lowering the sulfur in gasoline. The rule, effective in 2004, sets strict tailpipe emissions limits for light duty cars and trucks and requires refiners to manufacture lower sulfur levels in gasoline to achieve ambient air pollution levels, primarily in urban areas.

Volatile organic compounds (VOCs): Carbon-containing compounds that evaporate into the air. May be toxic. Volatile organic compounds directly contribute to smog, which aggravates respiratory diseases such as asthma, particularly in the young and elderly. Refineries are the single largest stationary source of VOCs, the primary precursor of urban smog. EPA has estimated that oil refineries are releasing at least 80 million pounds of undetected VOCs from leaking valves each year. Refineries are the 11th largest industrial source of VOC emissions in the United States, exceeding the emissions of many other large industries,

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